

WHAT IS CLAIMED:

1. A sealing device for sealing at least one zone of underpressure or overpressure adjoining a moving surface, comprising:

at least one sealing element, positionable opposite the moving surface to form a front and a rear, with respect to a surface running direction, comprising a sealing section located at said front and a ventilation section located at said rear;

said sealing section being structured to sealingly interact with the moving surface; and

said ventilation section being structured and arranged to form a gap with the moving surface that widens in the surface running direction.

2. The sealing device in accordance with claim 1, wherein said sealing section adjoins said ventilation section, and said ventilation section is pivotably mounted.

3. The sealing device in accordance with claim 2, wherein said ventilation section is structured to continuously decrease in cross-section away from said sealing section.

4. The sealing device in accordance with claim 3, wherein the moving surface is arranged in a paper making machine.

5. The sealing device in accordance with claim 2, wherein said gap has a continuously increasing depth in the surface running direction.

6. The sealing device in accordance with claim 1, wherein said sealing section and said ventilation section are composed of a same material.

7. The sealing device in accordance with claim 6, wherein said sealing section and said ventilation section are formed as a single piece.

8. The sealing device in accordance with claim 1, wherein said sealing section and said ventilation section are composed of different materials.

9. The sealing device in accordance with claim 8, wherein said sealing section and said ventilation section are separately formed and secured together.

10. The sealing device in accordance with claim 1, wherein said ventilation section is composed of a porous sound-absorbing plastic.

11. The sealing device in accordance with claim 1, wherein said sealing section is composed of at least one of rubber graphite, polyethylene, and thermosetting plastic.

12. The sealing device in accordance with claim 11, wherein said polyethylene comprises thermoplastic UHMW and said thermosetting plastic comprises phenolic resin.

13. The sealing device in accordance with claim 1, wherein said sealing element comprises a sealing strip.

14. The sealing device in accordance with claim 13, wherein said sealing strip extends transversely to the running direction.

15. A sealing device for sealing at least one zone of underpressure or overpressure adjoining a moved surface, comprising:

at least one sealing element, positionable opposite the moving surface to form a front and a rear, with respect to a surface running direction, comprising a sealing section located at said front and a ventilation section located at said rear; and

said at least one sealing element being pivotably mounted to pivot relative to the moving surface to position said at least one sealing element into an operating position,

wherein, in said operating position, said sealing section is in sealing contact with the moving surface and a gap is formed between the ventilation surface and the moving surface.

16. The sealing device in accordance with claim 15, wherein said sealing

section adjoins said ventilation section.

17. The sealing device in accordance with claim 15, wherein said moving surface is arranged within a paper making machine.

18. The sealing device in accordance with claim 15, wherein said sealing element is pivotable about an axis extending transversely to the running direction.

19. The sealing device in accordance with claim 15, wherein said sealing element is pivotally mounted in a region of said ventilation section.

20. The sealing device in accordance with claim 15, wherein said sealing element is pivotally mounted in a region of an end located at said rear.

21. The sealing device in accordance with claim 15, wherein said sealing element is pivotally mounted in a region of an end face located at said rear.

22. The sealing device in accordance with claim 15, further comprising a rocker bearing arranged pivotably mount said sealing element.

23. The sealing device in accordance with claim 15, wherein said sealing element comprises a groove, and said sealing device further comprises:

a pivot bearing arranged to pivotably mount said sealing element, said pivot bearing comprising a fixed bearing element arranged to engage said groove.

24. The sealing device in accordance with claim 23, wherein said groove is arranged at a rear end face located at said rear, and said sealing device further comprises:

a fixed guide surface arranged in a region of a front end face of said sealing element, said fixed guide surface being structured and arranged to permit the pivoting movement of said sealing element and to prevent said sealing element from moving away from said fixed bearing element, thereby maintaining said pivot bearing.

25. The sealing device in accordance with claim 24, wherein said front end face has a curved surface.

26. The sealing device in accordance with claim 24, wherein said fixed guide surface is planar.

27. The sealing device in accordance with claim 24, wherein said fixed guide surface is curved.

28. The sealing device in accordance with claim 15, wherein said gap increases in the running direction.

29. The sealing device in accordance with claim 15, wherein said sealing element has a reducing thickness in the running direction.

30. The sealing device in accordance with claim 15, further comprising a pressure device coupled to said sealing element,

wherein said sealing element is loadable into said operating position by said pressure device.

31. The sealing device in accordance with claim 30, wherein said pressure device comprises a pressure hose.

32. The sealing device in accordance with claim 15, further comprising a pressure device coupled to said sealing element,

wherein said sealing element is permanently loadable into said operating position by said pressure device during operation.

33. The sealing device in accordance with claim 15, wherein said sealing element is held in said operating position by friction clamping.

34. The sealing device in accordance with claim 15, further comprising a pressure device coupled to said sealing element,

wherein said sealing element positionally adjustable via said pressure device to compensate for wear of said sealing section.

35. The sealing device in accordance with claim 15, further comprising a pressure device coupled to said sealing element,

wherein said sealing element chargeable via said pressure device in a region of said sealing section.

36. The sealing device in accordance with claim 15, further comprising a pressure device coupled to said sealing element,

wherein said pressure device is arranged at a side of said sealing element remote from the moving surface.

37. The sealing device in accordance with claim 15, further comprising a pressure device coupled to said sealing element,

wherein said sealing element comprises includes a lug extending in a pivot direction, said lug being chargeable via said pressure device.

38. The sealing device in accordance with claim 15, further comprising a pressure device coupled to said sealing element and a spacer,

wherein a force transmission takes place from said pressure device onto said sealing element via said spacer.

39. The sealing device in accordance with claim 38, said space being cambered at at least one of a side facing said pressure device and a side facing said sealing element.

40. The sealing device in accordance with claim 39, further comprising a guide structured and arranged to linearly guide said spacer.

41. The sealing device in accordance with claim 15, further comprising a pressure device coupled to said sealing element,

wherein a force transmission takes place from said pressure device directly onto said sealing element.

42. The sealing device in accordance with claim 15, further comprising at least one rinsing line,

wherein said sealing element is charged with cleansing agent via said at least

one rinsing line.

43. The sealing device in accordance with claim 42, wherein said sealing element is permanently chargeable with cleansing agent during operation.

44. The sealing device in accordance with claim 42, wherein said sealing element is chargeable with cleansing agent only from time to time during operation.

45. The sealing device in accordance with claim 15, wherein said sealing element comprises a sealing strip.

46. The sealing device in accordance with claim 15, wherein said sealing strip extends transversely to the running direction.

47. The sealing device in accordance with claim 15, further comprising a side sealing of at least one zone of underpressure or overpressure adjoining a rotating jacket of one of a suction roll, a blow roll and a moving band.

48. The sealing device in accordance with claim 15 being structured for sealing at least one pressure zone adjoining a rotation jacket of one of a suction roll and blow roll,

wherein said sealing element comprises a sealing strip extending at least substantially over an entire length of said roll.

49. The sealing device in accordance with claim 15 being structured for sealing at least one inner zone of underpressure or overpressure adjoining an inner wall of a rotating jacket of one of a suction roll and a blow roll.

50. The sealing device in accordance with claim 15 being structured for sealing at least one outer zone of underpressure or overpressure adjoining an outer wall of a rotating jacket of one of a suction roll and a blow roll.

51. The sealing device in accordance with claim 15 being structured and arranged between one of a suction box and a blow box and a rotating jacket of one of a suction roll, blow roll, and a moving band.



52. The sealing device in accordance with claim 15, said ventilation section including a run off surface having at least one of a substantially sawtooth and wavy shape surface arranged at an end of said rear.

53. The sealing device in accordance with claim 52, wherein said sealing section adjoins said ventilation section,

wherein said at least one of a substantially sawtooth and wavy shape surface comprises a plurality of teeth extending in the running direction with grooves formed between adjacent teeth, and

wherein said grooves are structured to flare open toward said end.

54. The sealing device in accordance with claim 53, wherein said grooves are structured to continuously increase in cross-section toward said end.